REMARKS

Rejection under 35 USC 103(a)

Claims 1-2 are rejected under 35 USC 103(a) as being unpatentable over Sutter (USPN 6,446,092 B1, hereinafter "Sutter") in view of Chang (USP 6,061,515, hereinafter "Chang"). Applicant respectfully disagrees for the reasons discussed below.

The Examiner stated that Sutter teaches a computer-implemented method for representing a data schema that implements a relational database scheme in a graph, comprising: identifying tables of said data schema; (col 37, lines 15-31), representing said tables as nodes (col 4, lines 10-21) of said graph (i.e., spanning tree) col 18, lines 3-24; identifying foreign key relationships pertaining to individual tables of said data schema (col 44, lines 1-40); and representing said foreign key relationships as links of said graph (col 44, lines 1-40; col. 49, lines 1-45). See page 4 of the Office Action.

In column 4, lines 10-21, Sutter summarizes the invention as providing an architecture for an independent distributed database, or IDDB. In column 18, lines 3-24, Sutter teaches that sites can be represented in a spanning tree as shown in Figure 6a and 6b of Sutter. These discussions are further dissected below.

A. Sutter fails to teach the representation of the database schema's tables as nodes in a graph, with links between nodes representing foreign key relationships.

1) Are the "sites" in Sutter's spanning tree database tables?

Applicant respectfully refers the Examiner to the cited first paragraph of Sutter's "Brief Summary of the Invention" section (column 4, lines 11-20). In that paragraph, Sutter makes clear that the invention relates to an architecture wherein each processing device in the network that implements the independent distributed database (IDDB) are peers and no "site" acts as a server for another (i.e., there is no distinction between master or slave or primary or secondary or service or replica sites).

Sutter points out "The IDDB 1 comprises an application running as a virtual network which is defined by sites running a given IDDB application on a physical communication network." Column 10, lines 36-39, emphasis added. The invention enables the IDDB to overcome the disadvantages associated with

the server-based architecture, which Sutter contends to be problematic (see Background).

The definition of the word "site" is further evident in the discussion of Figure 1 (column 10, lines 34-50). Sutter clearly points out "[e]ach computer or workstation corresponds to a site in the IDDB application network 1." (column 10, lines 49-50, emphasis added).

Clearly, the "sites" in Sutter are not database tables in the manner claimed. The "sites" in Sutter's disclosure are physical computing nodes to be arranged into a virtual network that implements Sutter's IDDB. These IDDB sites operate on the distributed database, but they themselves are not the database tables.

2) The spanning tree in Sutter column 18, lines 3-24::

Applicant respectfully points out that the spanning tree in Sutter is constructed for the purpose of making the process of database synchronization more efficient among "sites" (i.e., computers or workstations in the IDDB application network as pointed out above). See column 16, lines 39-43 "The second stage in the update propagation involves spine sites 52 sharing all record fragment changes among themselves (i.e., depicted as link 58 in FIG. 5). The changes are shared using a spanning tree established for spine sites 52).

Thus, nodes of Sutter's spanning tree are spine sites. See column 16, lines 19-20 ("The spine sites themselves are linked as needed using a spanning tree."). Spine sites are defined as sites that are stable/highly available as discussed on column 15, lines 65-68. ("A spine site comprises a stable site which is defined as a long term member of the application network and is assumed to have consistently high availability.

Next, Applicant wishes to discuss the "links" in Sutter's spanning tree.

3) The "links" among nodes of Sutter's spanning tree do not represent foreign key relationships among database tables.

The spanning tree algorithm of columns 17 & 18 are designed to satisfy the requirements spelled out in column 17, lines 11-15 (minimum height, weighting by bandwidth, and weighting by availability). The goal is to construct a spanning

tree of sites in such a way that makes database synchronization or change propagation as efficient as possible among the sites (see column 16, lines 29-30. "Each link between a pair of sites takes the form of a "database sync" operation." Emphasis added).

For example, Sutter suggests that "each node [to] have as much bandwidth as both of its children combined, so that the parent's bandwidth limits do not slow down the propagation algorithm." See column 17, lines 16-21. This can be seen in Fig. 6a (completed balanced spanning tree) in which each parent node has at least as much bandwidth as the sum of the bandwidths of its children node.

Accordingly, the links between "sites" are paths for propagating database changes, which paths are determined in accordance with the spanning tree algorithm to satisfy the design criteria regarding minimum height, weighting by bandwidth, and weighting by availability). These links are not foreign key relationships among database tables.

4) Conclusion regarding Sutter:

Accordingly, the nodes in Sutter's spanning tree do not represent tables of the database schema, the spanning tree does not represent a graph of the tables implemented as nodes, and the links among Sutter's spanning tree are not foreign key relationships among tables in the manner claimed.

It is respectfully requested, therefore, that the Examiner reconsiders the Office Action's assertion that Sutter teaches the representation of the database schema tables as nodes of a graph and the representation of foreign key relationships among the tables as links of the graph.

B. Chang's definition of a foreign key does not, in combination with Sutter, suggest the claimed invention of claim 1 and/or claim 2.

The Examiner also cited Chang column 4, lines 12-20 to support the obviousness rejection. It is respectfully submitted that Chang merely recites the definition of a foreign key ("Foreign keys are used to define a link to another table. A foreign key is a key taken from another table to create a linking value to serve as a means of navigation from one table to the other table. A table may contain as many foreign keys as links it requires to relate it to other tables with which it has relationship.") See Chang col. 4, lines 12-20.

Applicant does not believe the above-cited section of Chang, or Chang itself, teaches or discloses the constructing of links among nodes of the graph from the foreign key relationship in the manner claimed. However, in view of the above-discussion regarding Sutter, it is clear that even if Chang could be construed as teaching or disclosing the constructing of links among nodes of the graph from the foreign key relationship in the manner claimed (a construction which Applicant does not agree with), the deficiency of Sutter as discussed above still cannot render the claimed invention obvious, alone or in combination with Chang.

C. Conclusion:

In view of the discussion herein, Applicant believes that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number 1-(408)-210-3170.

The commissioner is hereby authorized to charge any fees that may be due to our Deposit Account No. 50-2284 (Order No. AMPSP002). A duplicate copy of the transmittal sheet for this amendment is enclosed for this purpose.

Respectfully submitted,

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